

NOTES ON A COLLECTION OF HELICOID LAND SHELLS FROM NEW GUINEA.

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SINCE collecting Mollusca and other Natural History objects in New Guinea in 1902 and 1903, Mr. A. E. Pratt has made two further expeditions to this, the largest island in the world. The first of these started from the south coast with the object of penetrating into the interior of Dutch New Guinea, and unfortunately proved a complete failure through his inability to procure native porters. On his latest expedition to North and West New Guinea Mr. Pratt obtained extensive collections, and the Mollusca were, with one or two exceptions, in excellent condition. Some species were represented by considerable numbers, and those enumerated below were collected at Hamatawarea, near Fak-Fak, West New Guinea. With one exception they all belong to known forms, no less than seven of the species pertaining to the genus *Papuina*, one of these being new to science.

XESTA CITRINA, Linn., var. OBIANA, Mlldff.

Xesta Obiana, Mlldff., Nachr. Blätt. Deutsch. Malak. Ges., 1902, p. 186.

Originally described as a distinct species, allied to *X. aulica*, by Möllendorff, but it appears to me to be simply a depressed small form of *X. citrina*. Hitherto only recorded from the island Obi in the Moluccas.

HEMIPLECTA ANDAIENSIS, Smith.

Ariophanta (Hemiplecta) Andaiensis, Smith, Proc. Malac. Soc., 1897, vol. ii, p. 287, pl. xvii, figs. 7, 8.

One specimen is larger than the type, measuring diam. maj. 35, min. 30 mm.; alt. 14.5 mm. Another specimen is still more depressed than the one figured by Mr. Smith in Ann. Mag. Nat. Hist., 1897, ser. vi, vol. xx, pl. ix, fig. 4, its dimensions being: diam. maj. 32.5, min. 28.5 mm.; alt. 12 mm.

HEMIPLECTA DORIÆ (Tapp.-Can.).

Nanina Doriæ, Tapp.-Can., Ann. Mus. Civ. Genova, 1880, vol. xvi, p. 61; 1883, vol. xix, p. 202, pl. v, figs. 8-10.

Nanina (Hemiplecta) Doriæ, Kobelt, Conch. Cab., *Helix*, 1902, Abth. v, p. 1001, pl. cclix, figs. 7-9.

The specimens obtained are larger and more elevated than the type. Diam. maj. 46, min. 38 mm.; alt. 22 mm.

HEMIPLECTA CAIRNSI, Smith.

A single immature shell.

HEMIPLECTA (?) FOULLIOYI, Le Guill.

A large series of this fine species was collected, including several immature specimens, in various stages of growth, which are earinated, the keels disappearing when about $4\frac{1}{2}$ whorls have been completed.

The mature shells are all larger than the type from Triton Bay, which is stated to measure: diam. 46, alt. 29 mm., whereas my largest specimen has the following dimensions: diam. maj. 57.5, min. 47.5 mm.; alt. 32 mm.; while the smallest measures: diam. maj. 48, min. 41.5 mm.; alt. 29 mm. Some shells have a sharply defined infra-peripheral, broad, dark olivaceous zone, occupying quite half of the base, the remainder being pale olivaceous. The parietal callus of the mouth is minutely granulated, a feature to which no reference appears to have been made by any previous observers. The only figures published of the species are in the Conch. Cab., *Helix*, 1900, Abth. v, p. 999, pl. cclix, figs. 1-3.

The generic position of this species is uncertain. Described by Le Guillou as *Helix*, and referred by Gray and others to *Nanina*, it was placed in *Hemiplecta* by Pfeiffer and Tapparone-Canefri, while Kobelt doubtfully assigned it to *Xesta*. Fortunately, Mr. Pratt brought a specimen with the whole animal preserved in alcohol, and as Mr. Burne has kindly undertaken to investigate its anatomy it is anticipated that all doubt in this respect will shortly be cleared up.

CALYCIA CRYSTALLINA, Rve.

Several specimens.

CHLORITIS PERVICINA, Smith.

Ann. Mag. Nat. Hist., ser. VI., vol. xx, p. 411, pl. ix, figs. 8-10.

One specimen is a trifle smaller than the type. Diam. maj. 26.5, min. 22 mm.; alt. 13.5 mm.

ALBERSIA TENUIS, Pfr.

A large series of specimens in beautiful condition was obtained. The species appears to be very stable, varying but little either in form, colour, or texture. In size the range is also inconsiderable, the largest shell being 35 mm. in diameter and the smallest 31 mm., while in height they vary from 23.5 to 27 mm.

At first it was thought to be an undescribed form, as, on comparison with *A. tenuis*, the periostracum, which under a strong lens appears of a beautiful silky texture, showed considerable difference, exhibiting undulating, obliquely descending wrinkles, but on closer scrutiny the type of *A. tenuis*, to which Mr. Smith, with his usual courtesy, allowed me to have access, and which is in a somewhat worn condition, was found to show faint traces of a similar sculpture.

Pfeiffer makes no mention of this feature, which, in view of the condition of the shell on which he based his diagnosis, is not surprising.

PAPUINA LENTA, Pfr.

A single dead and worn specimen is not without some doubt referred to this species. In the Cuming Collection occurs a shell—also dead and worn—which, except for the slightly more angulated periphery, is

the exact counterpart of the one now under consideration. The label bears the original inscription, "*H. euchroes*, var.," which was afterwards deleted, and *lenta* substituted. At first I was inclined to consider my shell to be Pfeiffer's *euchroes*, but in spite of the fact that it is of larger size—measuring, diam. maj. 35, min. 28 mm.; alt. 38 mm.—and has, moreover, the spire relatively higher than *lenta*, the balance of evidence appears to me in favour of its being co-specific with the latter species. Pfeiffer, in his original description (Malak. Blätter, 1854, vol. i, p. 57), quotes the figure of *H. pileus*, var., in Conch. Cab., *Helix*, Abth. i, pl. xl, fig. 5, which also has a higher spire, a circumstance adding further weight to my conclusion.

The exact habitat of this species has hitherto remained unknown, the Moluccas having been doubtfully indicated as the original locality (Pfeiffer, Mon. Helic. Viv., vol. iv, p. 257).

PAPUINA RHODOCHILA, n.sp. Figs. 1-3.

Shell sub-covered perforate, trochoidal, ochraceous brown, becoming paler behind the peristome, especially on the base, ornamented with a very narrow dark-brown supra-peripheral band visible on the last three whorls, finely striated, almost ribbed near the mouth, and showing traces of excessively fine spirals above, very minutely and closely granulated on the earlier whorls, the granules becoming sparser and a little coarser on the later whorls, while on the base they are elongated in the direction of the lines of growth and disposed in concentric rows. Spire conical, apex prominent, suture shallow, linear. Whorls $5\frac{3}{4}$, the nepionic convex, the later ones almost flat, except the last, which becomes slightly convex and dilated towards the mouth, is convex below, becoming tumid towards the mouth near the periphery, slightly and slowly descending in front, with an acute



keel slightly pinched on the upper side, and slightly exerted as far as the second whorl. Aperture obovate, a little oblique, margins distant, united by a slight callus on the parietal wall; peristome rosy, a little thickened, expanded and reflexed, upper margin arched, receding, outer rounded, basal slightly curved, columellar strongly reflexed, ascending obliquely forward, dilated and partly covering the narrow umbilicus. Diam. maj. 25, min. 20·5 mm.; alt. 18·5 mm.

Type in my collection.

Represented by a single specimen. No nearly related species from New Guinea is known, but in shape it somewhat resembles the variety *pyramidata* of *P. pileolus*, Mts., from Batchian; that species, however, while being also minutely granulated, possesses several well-marked differentiating characters, and is always more or less ornamented with whitish opaque flammulations on a dark-brown ground.

PAPUINA HEDLEYI, Smith.

Mr. Smith has already mentioned (Ann. Mag. Nat. Hist., 1897, ser. VI, vol. xx, p. 414) that this species is rather variable in colour, and this observation is amply borne out by the series now obtained, the specimens ranging from pale ochraceous to buff and dark, almost blackish, brown, some of the paler shells having a pale base and pinkish peristome, while others have a pale base with dark-brown, narrowly margined peristome, and another has the base blackish brown and a corresponding dark, broadly margined peristome. All dark specimens, however, are characterized by a dark base.

In every case the columella has a more or less prominent whitish thickening which in some specimens bears a tooth or tubercle. All are encircled with numerous narrow, opaque-white, spiral bands, which on the earlier whorls are continuous, but lower down become interrupted by the oblique lines of growth, and disappear on the penultimate or last whorl, but in one instance reaching right up to the peristome, faint traces being also observable on the base in some. The narrow band bordering the keel on both sides also varies from opaque pale ochraceous to yellow in the paler shells, and dark orange in the darker specimens. The species has hitherto been only recorded from South-West New Guinea.

PAPUINA BEAUFORTI, Bavay.

Helix (Papuina) Beauforti, Bavay, Nova Guinea, 1908, vol. v, Zoologie, p. 280, pl. xiv, fig. 8.

As already observed by Mons. Bavay, this species is allied to *euconus*, Müll. dff., but it has a broader base, more convex whorls, and a concave spire, while the spirals on the last whorl and the base (to which, by the way, no reference is made) are much finer and closer. Möllendorff placed his species in *Satsuma* [= *Ganesella*], but, although both this and the new species lack the wrinkled sculpture peculiar to most species of *Papuina*, they possess some features in common with the group of *P. Hedleyi*—which is, moreover, also devoid of wrinkles—i.e. the peculiar manner in which the columellar margin of the peristome covers the narrow perforation of the umbilicus, leaving only a very narrow oblique slit, and the extension of the parietal callus beyond the umbilical region. The close, minute spirals, the pyramidal form, and the appearance of the nepionic whorls still further connect them with this group, and these considerations appear to me to warrant their inclusion in *Papuina*. One specimen was collected.

PAPUINA KAPAURENSIS, Smith.

Ann. Mag. Nat. Hist., 1897, ser. VI, vol. xx, p. 412, pl. ix, figs. 11, 12.

Three specimens, one more elevated in the spire and with wider, less covered umbilicus than the type, and without peripheral band. Diam. maj. 40.5, min. 32 mm.; alt. 26 mm.

Mr. Smith, in describing this species, ventures the opinion that it is perhaps only a variety of *P. lituus* or *P. labium*. It appears to me, however, to be quite entitled to specific rank, being more conical in

shape than either of its allies, differing further in the more flattened whorls, while from another allied form—*P. pseudolabium*—it can easily be distinguished by its more depressed spire. The aperture, also, is more dilated laterally, and the peristome more expanded.

PAPUINA MOLESTA, Smith.

Proc. Malac. Soc., 1897, vol. ii, p. 289, pl. xvii, figs. 10, 11.

A single specimen.

PAPUINA AURORA, Pfr.

A single specimen, with a repaired fracture on the last whorl, was collected. It shows traces here and there of excessively minute granules, more noticeable on the base. This feature is not mentioned by Pfeiffer or any subsequent observer.
